

### **REMARKS/ARGUMENTS**

Applicants would like to thank the examiner for the careful consideration given the present application. For the following reasons, Applicants respectfully request reconsideration and allowance.

#### **Claims 1-4, 8, 9 and 11-20**

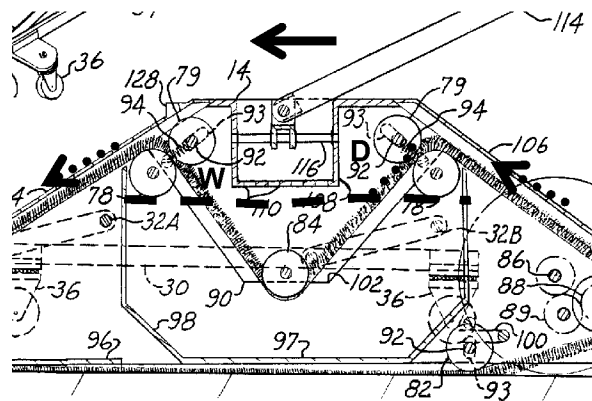
Claims 1-4, 8, 9 and 11-20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (U.S. Patent No. 5,933,900), hereinafter “Wang” in view of U.S. Patent No. 6,735,806 to Blum et al. (hereinafter “Blum”). For the following reasons, the rejection is respectfully traversed.

Regarding claim 1, the Examiner acknowledges that Wang does not explicitly disclose the claimed scratching means for removing liquid and dirt particles from the belt. The Examiner contends, however, that: 1) Wang discloses an alternate but equivalent means for removing liquid and dirt particles from the belt with expected results; 2) the claimed means is known, as evidenced by Blum; and 3) it would have been obvious to one of ordinary skill in the art to modify Wang to include a rotating projecting scratching means based on the teachings of Blum. For the following reasons, Applicant respectfully disagrees with each of these points.

#### *1. Wang does not teach any equivalent means*

The Examiner contends that Wang discloses means for removing liquid and dirt particles from the belt that is equivalent to the scratching means of Wang. However, in Wang, there is no mechanical removal of dirt. Instead, the dirt is rinsed from the belt by the cleaning liquid. A detailed explanation follows.

Wang teaches a modular apparatus for cleaning floors. The modules are inter alia a sweeping module 16 (figs. 3-5) and a main module 12 (figs. 2, 9 and 10). The main module includes (see mainly fig. 9 and corresponding description on col. 5 and 6) a carpet belt 28 in the form of an endless belt arranged between a number of rollers—including two pairs of wringer and press rollers 78, 79. The entire section of the belt placed between these two pairs of wringer and press rollers 78, 79 is essentially V-shaped due to cleaning roller 84. This V-shaped portion of the belt is within a container 98. The container 98 is filled with cleaning fluid so that most of the V-shaped part of the belt is submersed in the cleaning liquid (as understood from col. 5, lines



60-62; col. 7, lines 14-17 and col. 6, lines 19-21, all with reference to fig. 9). This can be further clarified by the below cut-out of fig. 9 in which an indication of the liquid level has been added as a dashed line (- -) based on the description of Wang referenced above.

From this the following can be understood. The function of each pair of wringer and press rollers 78, 79 depends on which direction the machine is being moved. For purposes of this explanation, one direction of movement will be described as shown by the arrow in the above cut-out of fig. 9. The belt direction is shown by the dotted arrow (“· · ·>”). When the machine is moving in the other direction, the operation will be reversed. One pair of wringer and press

rollers 78, 79, referred to herein in as the “wet” side (W), is mainly intended to remove cleaning liquid from a carpet belt portion immediately *before* that belt portion is conveyed to make contact with the floor. (In other words remove superfluous liquid to avoid drenching the floor to be cleaned.) The second (opposite) pair of wringer and press rollers 78, 79, referred to herein as the “dry” side (D), receives a belt portion conveyed from contact with the floor and will not be able to remove any dirt whatsoever (see the dotted line (· · ·) in the cut-out of fig. 9 shown above, indicating where at least “solid” dirt will be present if loosened from the belt surface). The wringing and press rollers 78, 79 on the dry side (D) are mainly provided to position the belt and to allow the operation of the machine to be reserved (in which case they would become the wet side rollers and vice versa). The cleaning roller 84 is completely submersed in the cleaning liquid. The description of Wang is completely silent with regard to if and how the ‘cleaning’ roller may participate in removal of dirt from the belt. However, the description is quite clear in that the dirt is *rinsed* from the belt within the tank 98 (col. 7, lines 44-45). Although the liquid in the container 98 at intervals can be drained and refilled, it is clear that the carpet belt will be submersed into the “dirty” liquid before being reapplied to clean the surface.

Thus, upon full consideration of the above description of operation of Wang’s machine, it is clear that Wang’s wringing and pressing rollers 78, 79 are *not equivalent* to the claimed scratching means, since they do not provide any mechanical removal of dirt from the belt (it is not squeezed, scratched, brushed, or in any other mechanical way removed). Rather, the dirt is rinsed by the liquid in the container, and the rollers 78, 79 merely wring out excess liquid.

*2. Blum does not teach an apparatus for removing liquid*

The Examiner contends that Blum teaches the claimed scratching means for abutting the conveyor belt and removing liquid and dirt particles from the belt. Applicant respectfully disagrees. Blum's sheet brush only removes large/loose debris.

In particular, the only place in Blum et al. that describes any removal at all is in col. 6, lines 6-8, where it states that there is "a sheet brush 1160 that can remove any large pieces of loosely attached debris." Large and loosely attached debris first would normally (and to the skilled person) not be understood as "liquid and dirt". Further, the sheet in Blum et al. (which is not endless) is a tacky sheet, clearly implying that it has a sticky surface intended to firmly hold dirt particles in place. One of ordinary skill in the art will appreciate that this kind of tacky sheet is not intended to pick up liquid.

For all of the above reasons, it is clear that the sheet brush 1160 of Blum is not the same as the scratching means of the present application, nor is it a functional equivalent thereof. Accordingly, even if the teachings of Blum were combined with those of Wang, every limitation of the claims would not be taught.

*3. One of ordinary skill would not combine Wang and Blum since they are very different technologically and functionally*

Wang teaches an endless carpet belt that is rinsed in a cleaning liquid and wringed out to remove excess liquid before applying it to the floor. Wang's carpet belt is intended to be reused indefinitely. Blum teaches a tacky sheet that rolled off of a roller is moved over the floor to pick up dirt and debris and then the dirty sheet rolled onto another roller. Once a portion of Blum's tacky sheet is too dirty to effectively pick up more dirt, it is no longer used for cleaning. Unlike Wang, the device of Blum's is not faced with the problem of trying to effectively clean an

endless belt that will be continually reused for cleaning the floor. One of ordinary skill in the art looking to improve or otherwise modify Wang would not look to the teaching of Blum, since it involves a different cleaning technology that functions in such a different way.

*4. Replacing the rollers of Wang with the brush of Blum would render Wang's device inoperative*

Nonetheless, even if, *arguendo*, one of ordinary skill in the art were to attempt to combine specific features of Blum with the machine of Wang, he/she would not and could not replace the wringing and press rollers of Wang with the sheet brush of Blum since it would render the apparatus of Wang more or less inoperative. As explained above, the sheet brush 1160 of Blum is intended to remove large and loosely attached debris. Replacing the wringing and press rollers on the "wet" side would lead to the belt not being squeezed before application onto a floor and the floor will also be soaked with water, destroying the cleaning function. Replacing the wringing and press rollers on the "dry" side would lead to the apparatus being unidirectional and would not add any functionality as any dirt would still remain on the surface of the belt.

*5. Adding Blum's brush in addition to the Wang's rollers would provide no meaningful benefit*

Even if, *arguendo*, one of ordinary skill in the art were to add the sheet brush of Blum in addition to the wringing and press rollers of Wang (to squeeze water and remove dirt), such addition would be essentially futile and meaningless and have no lasting effect. If the sheet brush were placed on the "dry" side, the belt will be subsequently submersed in liquid any way (for rinsing the belt) and any dirt that might be brushed off, would remain on the surface of the belt until submersion. If the sheet brush were placed on the "wet" side, any dirt brushed off would

only end up further down on the surface of the belt and be brought back to the brush more or less immediately (resulting in a piling of dirt on the “wet” side).

For all of the above reasons, every limitation of claim 1 is not taught, suggested or otherwise rendered obvious by Wang in view of Blum. Moreover, as explained above, it would not have been obvious to one of ordinary skill in the art at the time the present invention was made to modify Wang based on the teachings of Blum. Further, since claims 2-4 and 11-13 depend from claim 1, they are patentable for the same reasons, and the rejection should be withdrawn.

Similar to claim 1, independent claim 14 requires a scratching instrument removing liquid and dirt particles from an endless conveyor belt. For essentially the same reasons as described above with regard to claim 1, claim 14 is not rendered obvious by Wang in view of Blum and the rejection should be withdrawn.

#### Claims 5-6 and 10

Claims 5-6 and 10 were rejected under 35 U.S.C. 103 (a) over Wang in view of Blum and in further view of Lynn (U.S. Patent No. 5,203,047), hereinafter “Lynn”. For at least the following reasons, the Examiner's rejection is respectfully traversed. The asserted combination of Wang in view of Lynn, independently or in combination, does not teach or suggest all features of the claimed invention.

Claims 5, 6 and 10 depend either directly or indirectly on claim 1. As explained above with regard to claim 1, Wang in view of Blum fails to teach, suggest or otherwise render obvious the claimed scratching means. Additionally, this deficiency of Wang is not taught or suggested

in the disclosure of Lynn. Therefore, even if Wang were combined with Lynn, every limitation of claim 1 would not be taught, suggested, or otherwise rendered obvious or predictable by the resulting combination.

Accordingly, as claims 5, 6 and 10 depend from claim 1, and as claim 1 is not rendered obvious or predictable by the resulting combination, claims 5, 6 and 10 are not rendered obvious or predictable by the resulting combination.

Claim 7 stands rejected under 35 U.S.C. 103 (a) over Wang in view of Blum, in view of Lynn and in further view of Chupin et al. (U.S. Patent No. 4,918,778), hereinafter "Chupin". For at least the following reasons, the Examiner's rejection is respectfully traversed. The asserted combination of Wang in view of Lynn, and in further view of Chupin, independently or in combination, does not teach or suggest all features of the claimed invention.

Claim 7 depends indirectly on claim 1. Therefore, as Wang in view of Blum and Lynn fails to teach, suggest or otherwise render obvious the scratching means required in claim 1, this deficiency is not taught or suggested in the disclosure of Chupin. Thus, even if Wang were combined with Blum, Lynn and Chupin, every limitation of claim 1 would not be taught, suggested, or otherwise rendered obvious or predictable by the resulting combination. As a result, Wang in view of Blum, Lynn and Chupin fails to render claim 7 obvious.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned agent to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 16-0820, our Order No. ABE-37256.

Respectfully submitted,

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